

## 2020 Survey

Economic assumptions in  
accounting for pension and  
other post-retirement benefits

## Highlights of our annual survey results

Morneau Shepell is pleased to provide a survey of the assumptions used by around 90 Canadian public companies to account for the costs of their defined benefit plans. Information is collected from audited financial statements as at December 31, 2019. This is the twentieth year the survey has been conducted.

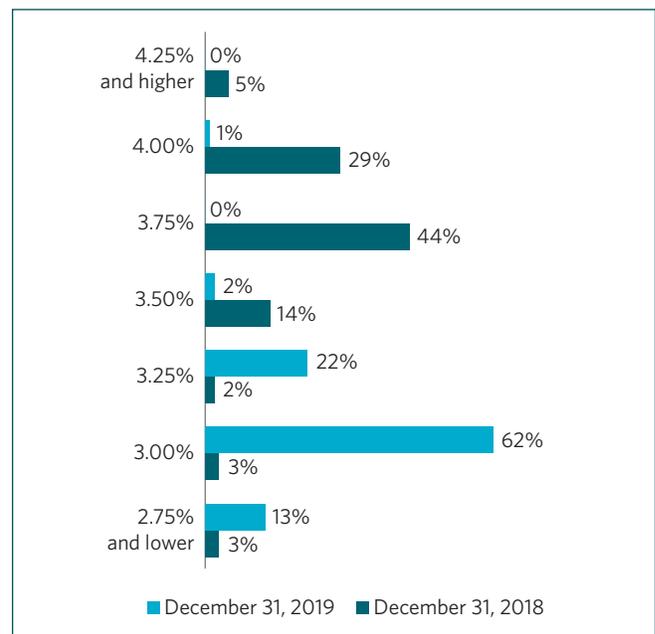
The survey is intended to provide information regarding the assumptions disclosed by a wide range of companies based on economic conditions as at December 31, 2019. Consideration should be given to market movements since the end of 2019, particularly given the volatility seen so far this year in terms of bond yields and asset returns due to the COVID-19 pandemic. Hence, readers should exercise caution with the interpretation and use of these results. As budget discussions begin for 2021, your Morneau Shepell consultants would welcome the opportunity to discuss how the volatility in 2020 may impact your employee benefit plans.

### Discount rate for pension plans

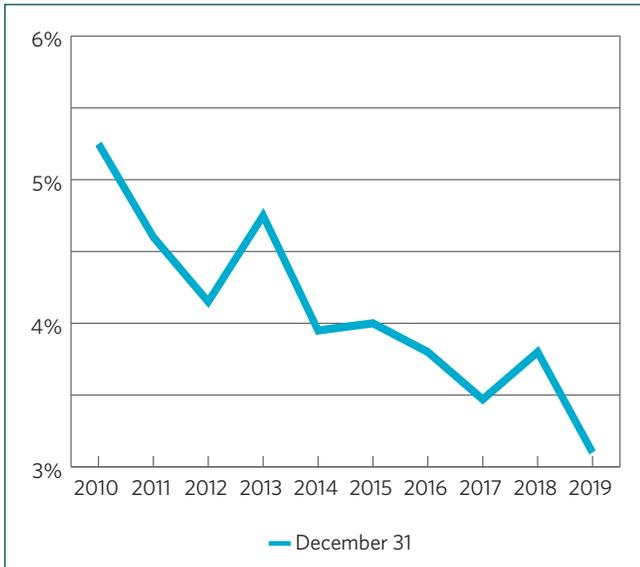
Discount rates at December 31, 2019 have decreased when compared to the prior year. The median discount rate was 3.10% as at December 31, 2019 compared to 3.80% a year earlier. Roughly 99% of companies surveyed decreased their discount rate in 2019.

The following charts summarize the discount rates used in the valuation of defined benefit pension plans as at December 31, 2019 (rounded to the nearest 0.25%), as well as the historical evolution of the median discount rate over the last 10 years, based on our past surveys.

Discount rate / Pension plans



### Historical evolution of the median discount rate

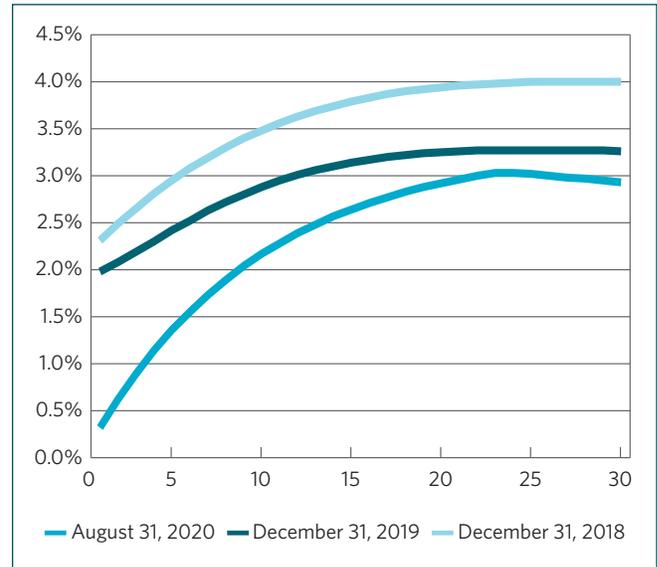


The spread in discount rates has decreased since last year. About 84% of companies used a discount rate between 3.00% and 3.25% (a spread of 0.25%), while 87% of companies used a discount rate between 3.50% and 4.00% (a spread of 0.50%) at the end of the preceding year.

As stated in the standard, the discount rate must reflect the estimated timing of benefit payments. In practice, companies often achieve this by applying a single weighted average discount rate that reflects the estimated timing and amount of benefit payments. Consequently, the discount rate used by one company will vary depending on the duration of the pension plan. Not all companies in the survey disclosed the duration in their financial reports.

Over time, the yields on high-quality long-term corporate bonds may vary considerably. The discount rate should be expected to vary in a similar fashion. The graph below compares the spot rate curves as at December 31 for the years 2018, 2019, and more recently for August 31, 2020. Spot rate curves, provided by Morneau Shepell, conform to the principles of the CIA Educational Note, revised in June 2018.

### High-quality corporate bonds



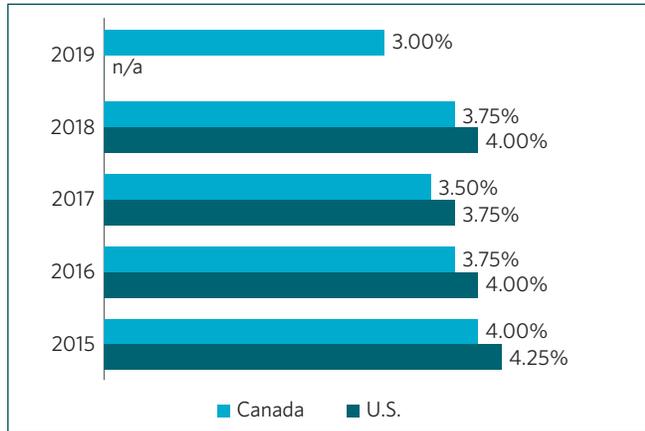
If the spot rate curve were to remain at August 2020 levels until the end of the year, the expected discount rates at December 31, 2020 would be approximately 39 to 71 bps lower than those used at December 31, 2019 and 122 to 130 bps lower than those used at March 31, 2020.

### COVID-19 impact

If maintained to the end of the year, the significant reductions in discount rates will lead to material increases in employer service costs and therefore overall pension expense for 2021. There will also be an increase in defined benefit obligation on the balance sheet which may be offset to some extent by higher asset values, but the overall impact will vary from plan to plan depending on the maturity and plan investment strategy.

The following chart compares the median discount rates (rounded to the nearest 0.25%) in our survey to the average discount rates from a U.S. study<sup>1</sup>.

Median discount rate by country



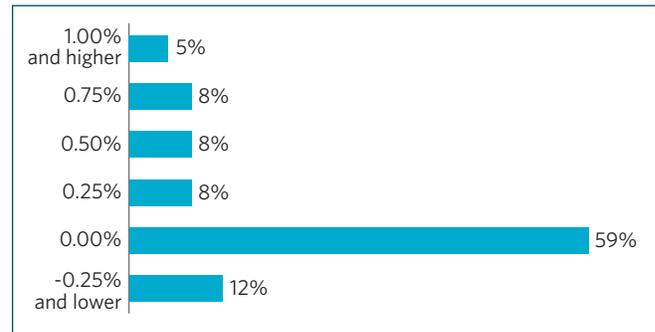
## Discount rate for non-pension benefits

The duration of non-pension post-employment benefits is often significantly different from that for pensions. For example, the duration of the defined benefit obligation (“DBO”) for a retiree medical plan is often longer than that for pension plans. As a result, the choice of discount rate for the valuation of post-employment benefits can be different than it is for pensions, in theory (see the Appendix on selecting the discount rate for more on this). While some companies use rates that differ by type of plan, many elect to use a single blended rate, or they simply use the rate for the most material plan.

The median rate used as at December 31, 2019, for non-pension benefits is 3.10%, a rate identical to the median rate used for pensions.

The following chart shows the difference between the discount rate used in the valuation of non-pension benefits and that used for pension plans, rounded to the nearest 25 bps (a positive value indicates a higher rate for non-pension benefits than for pensions and vice versa).

Difference in discount rates  
(non-pension benefits vs. pensions)



In 2019, 59% of the companies surveyed used similar discount rates for pensions and non-pension benefits, while 41% of companies used a significantly different discount rate for non-pension benefits (compared to 45% in our previous survey).

## COVID-19 impact

The fall in discount rates may have an even more significant impact on accounting for non-pension benefits. With longer durations, and with a lack of an offsetting increase in asset values on the balance sheet, the impact on accounting for non-pension benefits should be considered carefully.

## Rate of compensation increase

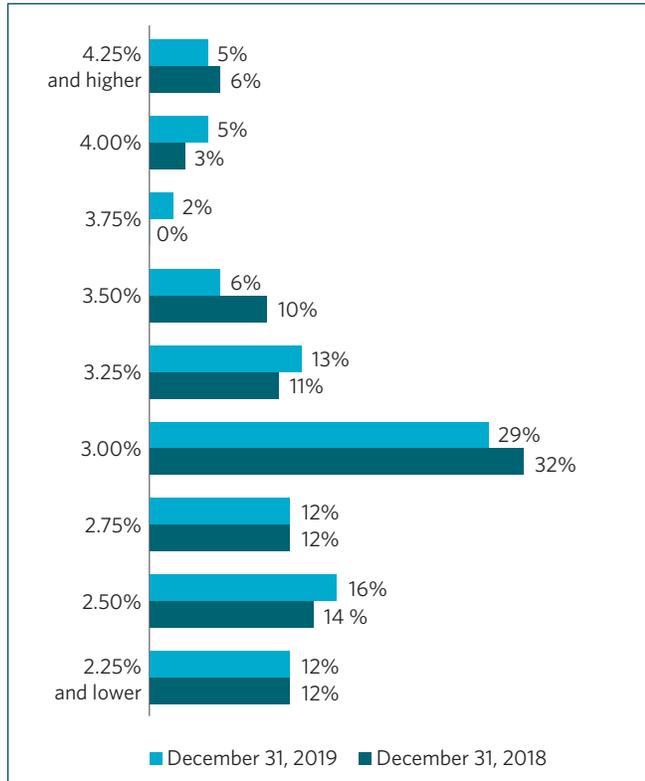
Plans that provide pay-related benefits are required to make an assumption about the rate of compensation increases. IAS 19 indicates that it should reflect “inflation, seniority, promotion and other relevant factors, such as supply and demand in the employment market”.

The median compensation increase assumption as at December 31, 2019 was 3.00%, which is identical to last year’s median. We found 76% of companies using rates between 2.50% and 3.50%. In some cases, however, this assumption is much lower than the median, leading one questions whether

<sup>1</sup> Source: 2020 Study of Economic Assumptions, prepared by Deloitte & Touche Human Capital Advisory Services (U.S.). (At the time of preparing this survey, the 2020 U.S. study had not yet been published by Deloitte and the average discount rate at December 31, 2019 for U.S. companies was unavailable. This survey will be updated once the U.S. study is published.)

some companies are properly reflecting the impact of individual job progression in their disclosed assumption and/or lowering the expectation on the inflation assumption which is typically used as a basis to set the compensation increase assumption.

### Rate of compensation increase

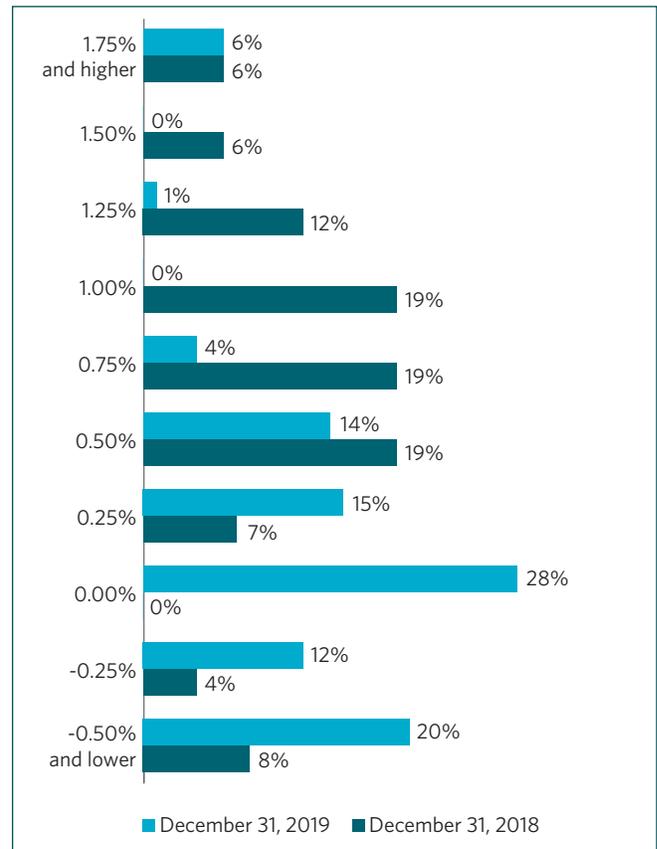


The following graph shows the spread between the discount rate and the rate of compensation increase. The spread can have a significant impact on the DBO for defined benefit pension plans. The median spread is 0.00% as at December 31, 2019, which is 75 bps lower than last year. A decrease in the spread results in a higher DBO.

### COVID-19 impact

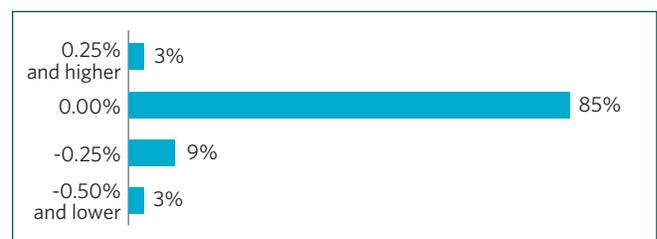
We are not expecting material changes to the long-term rate of compensation increase assumption or inflation rate due to COVID-19, but this may differ depending on how the pandemic has affected the particular company or industry in which the company operates. At the time of preparing this survey, the Bank of Canada aims to keep the long term inflation at 2% which sits in the middle of a range from 1 to 3%.

### Spread: discount rate / compensation



Our survey shows that about 15% of companies changed the rate of compensation increase assumption by approximately 25 bps or more (down or up) at December 31, 2019. There is some debate over how frequently this assumption should be changed. IAS 19 states that financial assumptions should be based on market expectations at the end of the reporting period. These results on salary increase assumption should be interpreted with care as they may be skewed due to employers with closed plans that are part of this survey. Thus, they may not fully consider the effect of future salary increases for new entrants.

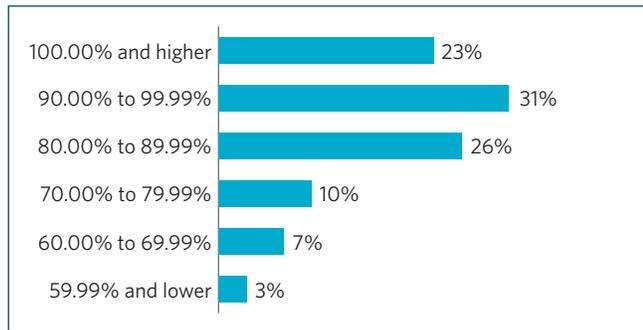
### Change in compensation increase assumption (2019 vs. 2018)



## Pension plan financial situation and financial assumptions

The companies in our survey show a 94% overall ratio of pension assets to DBO for accounting purposes. This result may be slightly understated since it includes some non-registered plans for which no funding is legally enforced under the Canadian regulatory environment. The ratio is highly influenced by the actual return on plan assets, the discount rate assumption and special contributions made to cover pension plan deficits. The distribution of companies based on their overall ratio at December 31, 2019 is shown in the following chart.

Pension plan ratio of asset value to accounting DBO (distribution of companies)



As mentioned, the ratio is highly influenced by return on assets and discount rate, for which we have summarized historical data in the next chart.

Discount rate and actual return on assets



## COVID-19 impact

We estimate that the overall ratio of 94% at the end of 2019 would have fallen to about 92% at the end of August. Our estimate is based on the evolution of corporate bond yields in 2020 year-to-date. It is also based on an average plan duration of 15 years and on Morneau Shepell's benchmark portfolio of 50/50 debt/equities 2020 year-to-date return. The average duration and portfolio mix are consistent with data collected through this survey.

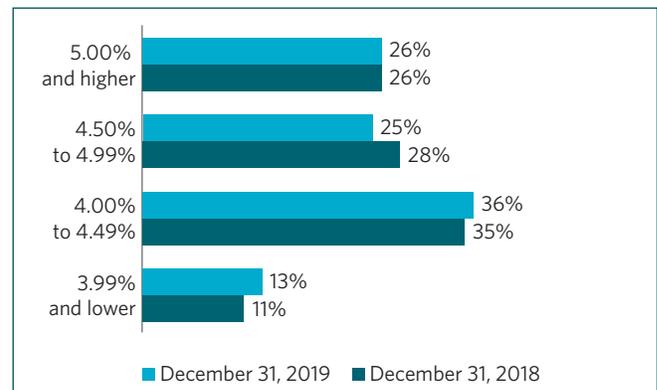
## Medical cost trend

When retiree medical coverage is offered, a key assumption in the valuation of the DBO is the rate of future medical cost increases. IAS 19 provides guidance on factors that companies should consider in selecting this assumption.

Often, medical costs are assumed to increase at a higher rate in the short term, declining in steps to an ultimate rate over a period of several years.

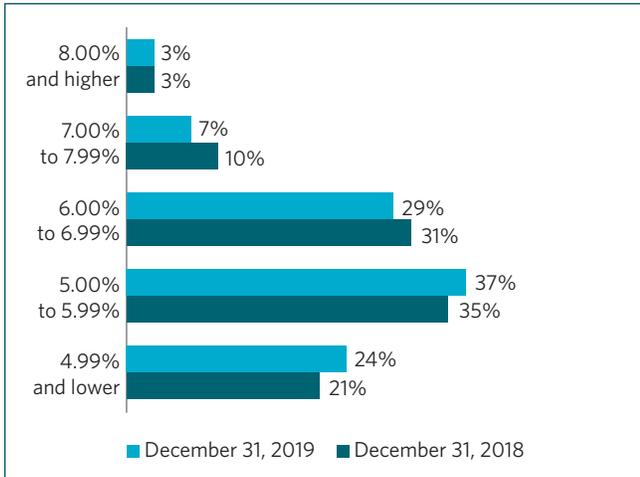
The following charts show the December 31, 2019 medical cost trend assumption compared to December 31, 2018. About 61% of the companies surveyed that are offering a retiree medical coverage used an ultimate trend rate between 4.00% and 5.00%. The median rate as at December 31, 2019 is 4.50%, which is identical to last year.

Ultimate medical cost trend



The median assumption for the short-term medical cost trend rate was 5.50% at December 31, 2019, which is 20 bps lower than last year's median rate. A total of 90% of companies used an assumption of less than 7.0% (87% in 2018).

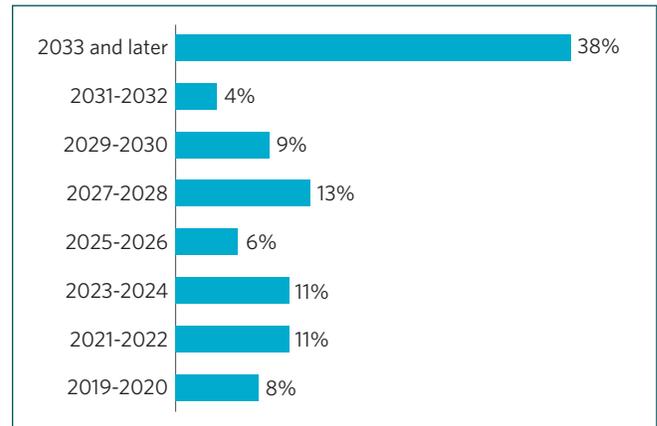
### Short-term medical cost trend



The medical cost increase rate reaches its ultimate level in 2029 (median), which is 1 year later than the median year of last year's survey (2028) and 8 years later than the median year of the 2014 study (2021). This confirms the current practice of adjusting the calendar year in which the health care cost trend assumption will reach the ultimate rate, for the sole purpose of maintaining the same projection period. The median projection period has remained reasonably stable since 2010 (9 years). We will continue to closely monitor to this assumption in future surveys.

### Ultimate medical cost trend

(year in which ultimate rate is attained)



In March 2018, a report jointly sponsored by the Canadian Institute of Actuaries (CIA) and the Society of Actuaries (SOA), Model of Long-Term Health Care Cost Trends in Canada, was released. The purpose of this report was to develop a model to forecast long-term health care inflation in Canada (known as the "McMaster Model"). As more plan sponsors begin to reflect the McMaster Model in their medical cost trend assumptions, we would expect to see a downward trend in the ultimate trend rate and an upward trend in the length of the projection period.

### COVID-19 impact

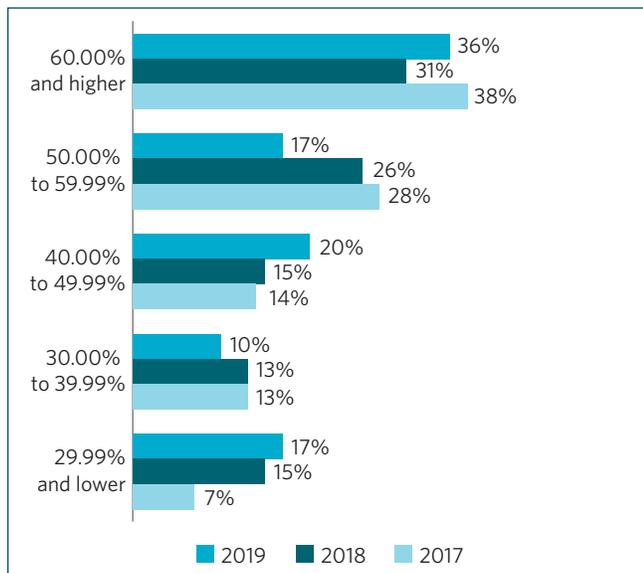
The COVID-19 pandemic may have an impact on members' claiming patterns and medical trend rates. However, at this time there is insufficient data to measure what these impacts will be, partially because some of these impacts will be offsetting. For example, it may be reasonable to expect an increase in hospital and drug costs due to the COVID-19 illness and the mental health effects of the measures put in place by governments to deal with the pandemic, while these same government measures may also result in a reduction in dental and paramedical costs, at least in the short-term. Plan experience should be monitored closely as it becomes available. In the long-term, it is unlikely that the pandemic will have a material impact on the ultimate medical cost trend assumption.

## Pension plan asset allocation

Under IAS 19, the allocation of pension fund assets between equities, fixed income and other assets must be disclosed. Additional categories may be added to facilitate the readers' understanding of the investment risks faced by the fund.

The average asset allocation as at December 31, 2019, was 39% in equities, 48% in fixed income and 13% in other assets (compared to 39% in equities, 49% in fixed income and 12% in other assets as at December 31, 2018). The distribution of the proportion of funds invested in equities and in other assets (excluding fixed income) is shown in the following chart.

Company distribution by combined pension plan equity and other assets weighting



## COVID-19 impact

Many plans have been reconsidering their investment strategies in light of the impact of COVID-19 on economic conditions, and the sponsoring employers' appetite for risk. We expect to see a push for increased levels of diversification in investment strategies to help manage the increased level of uncertainty going forward.

## Defined benefit cost - IAS 19

With respect to pension plans, the following graph shows the aggregate amount recognized in profit or loss (sum of the service cost and the net interest on the net defined benefit liability) and the aggregate amount recognized in other comprehensive income (remeasurements of the net defined benefit liability).

For 2019, these amounts are \$2.7 billion and \$2.2 billion respectively. The remeasurements of \$2.2 billion consist mainly of actuarial losses on the defined benefit obligation resulting from the revision of the discount rate assumption as at December 31, 2019, despite significant gains on plan assets in 2019 (compared to the interest generated by using the discount rate).

Historical amounts recognized in profit or loss and remeasurements recognized in other comprehensive income (\$ billion)



In IAS 19, remeasurements may be transferred to any other component in equity. Alternatively, they may be left in accumulated other comprehensive income ("AOCI"). About 77% of the companies in our survey are transferring the remeasurements immediately

to retained earnings, while the others (23%) are recognizing the amounts in AOCI.

With effect from January 1, 2019, IAS 19 requires a remeasurement of the defined benefit cost following a special event, based on the assumptions at the date of the event. As the discount rates and asset returns are so volatile during 2020, the remeasurement requirement may have material impact to certain entities that have special events in 2020.

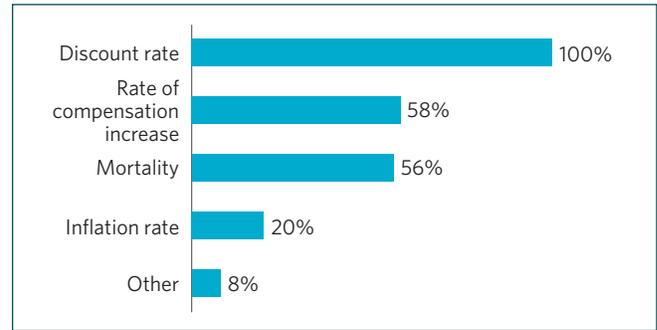
### COVID-19 impact

Since the beginning of 2020, the pension expense has increased by 15% to 20% mainly due to the decrease in the discount rates partially offset by moderate returns on assets.

### Additional disclosures - IAS 19

In IAS 19, some information with respect to the level of risk inherent in an entity's defined benefit plans have to be disclosed. However, some parts of the standard may be subject to interpretation and require professional judgment. Consequently, the level of detail in the disclosures may vary from one company to another. For example, 90% of the companies surveyed disclosed a sensitivity analysis of the defined benefit obligation, as required by IAS 19, while 10% did not disclose any. The following chart shows which actuarial assumptions were used for those companies that disclosed a sensitivity analysis.

Actuarial assumptions used in the sensitivity analysis



### COVID-19 impact

The impact of COVID-19 and the level of volatility seen through 2020 should encourage companies to expand some of the disclosures they provide, in particular those disclosures that give users of accounts a better understanding of the risk mitigation techniques currently being used by the sponsoring employer. For financial statements with year-end dates on or before March 31, 2020 and issued after the end of March, it is expected entities would disclose COVID-19 as a subsequent event.

### For more information

This survey is intended to provide information regarding the assumptions disclosed by a wide range of companies and, as such, can provide an indication of trends. The assumptions used for your own employee benefit plans will depend on a number of factors. For more information, please speak to your Morneau Shepell consultant.

## Appendix – Selecting the discount rate

In general, the DBO for defined benefit plans is highly sensitive to the discount rate assumption. For example, a 25 bps decrease in the discount rate can increase the DBO by as much as 5%.

IAS 19 provides general guidance for the selection of the discount rate assumption. The discount rate should be determined by reference to market yield on high-quality corporate bonds. In countries where there is no deep market in such bonds, the market yield on government bonds should be used. The discount rate should reflect the estimated timing of benefit payment, but it is common practice to apply a single weighted average rate. However, the precise methodology for computing this rate is not prescribed.

The Canadian Institute of Actuaries (CIA) published an Educational Note in September 2011 (subsequently revised in June 2018), which offers advice to pension actuaries who are engaged by an

entity to provide guidance on the discount rate to use for accounting purposes. The Educational Note describes a methodology to extrapolate the long end of the high-quality corporate yield curve that the Task Force believes would be appropriate in the current economic environment. This methodology uses high-quality corporate and provincial (adjusted) bonds. It is possible that some entities may not have applied the proposed methodology set forth by the CIA in establishing the discount rate as at December 31, 2019, instead using an alternative model that still conforms to the principles of the Educational Note. This could result in different discount rates for similar pension plans, given current conditions in financial markets.

Information on high quality Canadian corporate and provincial bonds (rated AA or higher) is generally available from independent sources, and can serve as a starting point in the determination of the discount rate.

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